DOCUMENT RESUME

ED 165 293 EA 011 209

AUTHOR Vandenberghe, R.; And Others
TITLE Influences and Constraints in the Primary School: An Explorative Study. Report Number 4.
INSTITUTION Katholieke Universiteit, Leuven (Belgium).
PUB DATE Feb 78
NOTE 34p.; For a related document, see EA 011 208

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS Adoption (Ideas); Catholic Schools; *Curriculum Development; *Educational Innovation; Educational Research; Effective Teaching; Elementary School Curriculum; Elementary School Teachers; Foreign Countries; Primary Education; Questionnaires; Statistical Data; Tables (Data); *Teacher Attitudes
IDENTIFIERS *Belgium

ABSTRACT

The selection of the subjects taught at present in the primary schools and the way they are taught is not accidental. The subjects taught are determined by a network of interactions and communications between the school and other persons and institutions. Using the results of a teacher questionnaire, this report examines operational curricula and tries to determine by whom and what this daily practice is influenced. Purpose of the study was to make it easier to plan for future innovations in curricula. Factors that determine a teacher's behavior in the classroom and at school were listed as the persons, institutions, and sources the teacher interacts with and that he or she perceives as influencing concrete actions in the classroom. Constraints were defined as a datum (for example, too big a number of pupils in the class), a physical datum (too little room to make experiments on science), or an action of a person (a negative intervention by the inspector), and so on. Results show the teachers feel that certain decisions they make or wish to make are restrained by the way they are helped in their daily practice and the way the innovation policy is realized, and by factors that they themselves are daily and directly confronted with in their classroom. (Author/LD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED165293

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

R. Vandenberghe

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

EA 011 209

Katholieke
Universiteit
Leuven

Departement
Pedagogische Wetenschappen

AFDELING
DIDACTIEK EN PSYCHOPEDAGOGIEK

Report nr 4

INFLUENCES AND CONSTRAINTS IN THE PRIMARY SCHOOL : AN EXPLORATIVE STUDY

R. Vandenberghe, H. Denoo & F. De Roo

februari 1978

Katholieke Universiteit Leuven
Departement pedagogische Wetenschappen
Afdeling Didactiek & Psychopedagogiek
Vesaliusstraat 2
B-3000 LEUVEN (België)

Influences and constraints in the primary school : and explorative study

R. Vandenberghe
in collaboration with H. Denoo and F. De Roo

1. Aspects of the problem

There is no need to be a clairvoyant to ascertain that nowadays the teachers (the headteachers, the inspectors, the parents) are, more intensively than before, confronted with a relative greater number of multifarious innovations. This ascertainment holds good with regard to most of the Western European countries where education tries to adapt itself to new social situations. In this context it is important to ascertain as clairly as possible what really happens with the different proposals of innovation. Since about 1970 we find a certain disenchantement in the American literature. The proposed innovations have not always been realized in the way the innovators had conceived them (J.I. Goodlad & M.F. Klein, 1970; N. Gross, J.B. Giacquinta & N. Bernstein, 1971; L.M. Smith & P.M. Keith, 1971; S.B. Sarason 1971). That is the reason why nowadays much attention is paid to the so-called process of implementation that takes place at the moment a school decides to realize a certain innovation (J.B. Giacquinta, 1973; M. Fullan & A. Pomfret, 1977). One has namely found out that the decision of innovation has not always led to an acceptable practical effect (implementation). For the phenomenon non-implementation several determinants have been premised (M. Fullan & A. Pomfret, 1977). Hall, Wallace and Dossett agree with Schmuck and Miles when they point out : "that more attention needs to be placed on organizational development within an educational institution. Given a supportive environment, more effective means of communication, and the development of norms that support individual effort, innovations may take root, as some school-based organizational development studies indicate. Or it may be that the adoption of innovations has not been sufficiently examined as a <u>developmental process in which the concerns of the individual adopter and the relationship of these concerns to the use of the innovation play a major role</u>" (G.E. Hall, R.C. Wallace, W.A. Dossett, 1973, p. 1-2). We find a

similar train of thought in Doyle and Ponder where they ascertain that many of the proposed change strategies do not sufficiently work because one does not take enough account of "the natural existing mechanisms which operate in school environments". And further : "Statements of how change should occur are not very useful in interpreting how classroom teachers respond to influences which impinge upon their established habits and practices (W. Doyle & G.A. Ponder, 1977).

This proves that the process of implementation is influenced by a series of characteristics extant in the school that accepts innovation (organizational characteristics) and by a series of characteristics extant in the teachers who have to realize the innovation. Both series of factors result in the fact that the proposed innovation is perceived and realized in a special way. That is why some consider implementation as a mutual adaptation: the innovation and the school (the teachers included) as it were adapt themselves to each other; that means that as well the school as the innovation can undergo certain changes (P. Berman and Mibrey W. McLaughlin, 1975; Milbrey W. McLaughlin, 1976). V.T. Peterson however points out the danger of approaching this process of mutual adaptation in too rational a way; in other words this adaptation cannot be described as a cyclus of succeeding decisions that comes into being on the basis of rational elements. He describes the view of the rational adaptation process as follows : "local organizational participants notice innovative opportunities offered through governmental initiative; they raise their aspiration levels accordingly after calculating the value of innovation for their local setting; and, after making some small attempts to insure that something better or closer at hand doesn't already exist, they adopt the innovation and allocate staff to it until it is installed; they then look to their local and policy environments for reactions and, depending on the direction and amount of reinforcement (through evaluation and/or notoriety), take the next step toward or away from an innovative posture" (V.T. Peterson, 1977, p. 5). This rather rational conception of the process of implementation implies as it were obvious relations between on the one side certain proposals of the management and a certain process that gets going and on the other hand between this process and the results (in this case the proposal of innovation is realized).

These linkages however are intersected by all kinds of ambiguities (which appear from certain facts) so that the expected succession of decisions manifests itself less clearly. In his investigation V.T. Peterson goes into several ambiguities. Some of them can be located in what he calls "policy-interpretation linkage" (1). The local school situation and the conceptions of the teachers cause certain innovations to be interpreted in a very specific way and it is the way of interpretation which gives a proper form to the process of implementation (see the same train of thought in Hall, Wallace and Dossett and in Doyle and Ponder). That's why one starts considering the implementation not so much as a rational adaptation process but rather as a loosely coupled organizational adaptation process.

Referring to a few recent publications we have demonstrated that nowadays much attention is paid to the process of implementation and that its course is determined by the topical education with everything belonging thereto. In other words : the factors (e.g. conceptions about the objectives of education, the presentday curricula, the didactical material, the collaboration with colleagues, etc...) that nowadays affect the way education is given, will also influence the process that in a certain school gets going when one has decided to adopt an innovation. The purpose of the investigation, we are going to describe, was getting some insight into these co-determining factors.

It is noteworthy that the outlined train of thought is not only to be found in what we could call specific innovation literature but also in articles that are written with a view to curriculum development. In an introduction to the work of Taylor and Tye, Goodlad points out that a series of transactions take place when a curriculum is concretely shaped in the daily class-practice. He notices particularly the following : "Finally, we have the matter of identifying the locus of transactions. They occur at a host of decision-making points : between national commissions and local lay authorities, local authorities and various layers of professionals, one layer of professionals with another, teachers with their students. <u>At each of these, new sets of values intrude</u>. Curriculum development is not a rational, linear process, with intentions stated from on high moving neatly and systematically through logical processes of deduction to influence the experience of students. As a matter of fact,

curriculum planning is more a transactional, socio-political process than it is a rational, substantive one of determining and then logically relating ends and means (J.I. Goodlad, in : P.H. Taylor and K.A. Tye, 1975, p. 13). In other words : it is important to get an insight into the factors that are determining the transaction from intended to operational curriculum (see also : R. Vandenberghe, 1976). This distinction between both forms of curriculum (what ought to be taught and what is actually taught) has been further examined by Taylor (P.H. Taylor, W.A. Reid, B.J. Halley and G. Exon, 1974; P.H. Taylor, 1975). Both investigations inspired the one that is described in the following paragraphs.

2. Objectives of the investigation

The selection of the subjects that are taught at present in the primary schools and the way they are taught are not accidental. The subjects that are taught are determined by a network of interactions and communications of the school with other persons and institutions. Each of them have there own conception of what is to be done in the school.

The operational curriculum, i.e. what one concretely does in the school, has historical roots and is continually influenced by a number of current factors. By examining this operational curriculum it becomes possible to detect by whom and what this daily practice is influenced. What concretely happens is probably determined by what the authorities expect ("intended" curriculum) but also by what is practically possible.

By means of the present investigation one tries to get an insight into the factors which determine the transaction from the intended to the operational curriculum and into the strenght and the structure of these different factors (H. Denoo, 1970; F. De Roo, 1977).

In this way one gets information that is important for planning an interventionstrategy. If one can detect in a systematic way the factors that, at least according to the teacher himself, influence his actions, one gets important information that is to be taken into account if one wants to realize certain innovations in cooperation with the teachers.

3. Inventory of influences and constraints

As a starting-point for drawing up an inventory of factors the following question was asked : which factors determine concretely the teacher's behavior in his class and in his school?

At first we were under the impression that what the teacher in his class does and decides is determined by a series of positive and a series of negative factors. Positive factors are those of which the teacher supposes that they play a part in the realization of objectives, that they influence a series of concrete decisions in the class. Negative factors are consequently those factors which cause that certain expectations and/or wishes cannot be realized. A first try at ranking in this dichotomy a certain number of concrete factors made us ascertain that the proposed division couldn't be kept up. Another division was adopted : referring to Taylor, the distinction between factors of influence and constraints was used. Provisionally the following description was proposed as a general trend. Influencing factors are : a number of persons, institutions and sources the teacher is in interaction with and of which he is under the impression that they influence his concrete actions in the class (e.g. inspectors, local authority, parents, teacher center, curriculum, textbooks, pedagogical-didactical publications, etc. ...). To our mind constraints cannot be either persons or institutions but rather a datum (too big a number of pupils in the class), a physical datum (too little room to make experiments on science), an action of a person (a rather poor intervention of the inspector) etc...

Starting from this provisional definition a first inventory was drawn up on the basis of a classification scheme. On the one side this scheme had to be sufficiently complex to find in it a place for all the existing influences and constraints and on the other side the description of its categories had to be rather simple to offer the possibility of classifying all the factors in a uniform way. We based the inventory of the influencing factors on a classification scheme proposed by Taylor (P.H. Taylor et al., 1974, p. 6).

Scheme 1 : Classification scheme for influencing factors

PROFESSIONAL

LOCAL..... IN SCHOOL ..... NATIONAL

NON-PROFESSIONAL (2)

For the constraints we used a classification system proposed by C. De Keyser (1973, p. 23). So we got the following scheme.

Scheme 2 : Classification scheme for constraints

- structural constraints (graded system; classes with two forms);
- cultural-material constraints (no longer acceptable didactical material, to small a playground);
- cultural immaterial constraints (attitude of the teacher towards in-service-training, relation to the head teacher).

After filling up the categories of both of these classification schemes with a number of concrete factors we showed them individually to seven inspectors of the primary school. In this way we attempted on the one side to extend the content of the provisional inventory of influences and constraints. On the other side we tried - and, looking at things after the event, this second objectif was more important than the first one - to examine if the train of thought we had developed hitherto (namely the problem of transaction concerning the concrete shape that in the practice is given to the intended curriculum) is a real problem, in this sense that it is also perceived by specialists in education who are closely related to the daily practice (3).

Within the scope of this contribution we can go only succinctly into the results of these interviews but we shall present the most important of them. First : the list of influences and constraints was considerably extended. Secondly : at the beginning we made a distinction between the teacher as a guider in

the teaching-learning process (in the class) and the teacher as a member of a team (in the school). We supposed namely that the influences and the constraints can be different according as the teacher is considered with regard to his different activities (class - school). The inspectors however gave it as their opinion that there was no sense in inserting this distinction into the questionnaire (4). Thirdly : the structural constraints were further divided into two categories. A distinction was introduced between structural constraints in the strict sense and in a wider sense. The structural constraints in the strict sense bear directly upon the class itself (too big a number of pupils, presence of several special teachers so that the coordination of the whole of the teaching-learning process suffers from it, etc...) whereas the structural constraints in a wider sense relate less directly to the class (prospects of a flat career, lack of continuity in the innovation of education...).

4. Construction of the instrument for investigation

After we had classified the influences and the constraints we had to look for the best way for measuring these factors. Taylor describes this problem as follows : "One method would be to study the actions of individuals and agencies which are presumed to exert influence or give rise to constraints, and to try to detect concomitant behaviour changes in those whom we define as undergoing influence or constraint. Two major difficulties stand in the way of such an approach : first, the problem of how actions are to be quantified in terms of how influential or how constraining they are; secondly, the problem of legitimately moving from the observation that events are concomitant to the assertion that there is a causal relationship between them (P.H. Taylor, et al., 1974, p. 4-5). That's why we decided to ask the teachers to declare to which extent, according to their opinion, influences or constraints play a part. In other words, the enquiry would bear upon the influences and the constraints in so far they are perceived as such by the teachers. So we came to a questionnaire that required written answers and that was tested by means of a dry run.

4.1. The preliminary research

The questionnaire was composed of three parts. In a first part a number of identifying data were gathered. The second part comprised the description of a number of concrete influences(5). The extent to which these factors have an impact on the daily class practice had to be indicated on a six-point-scale (1 = very little; 6 = very strong). The third part comprised the constraints which had to be estimated in an analogous way (1 = very little; 6 = very strong) (6). There were two blank pages on which the teachers (N = 45) could write all kinds of observations and criticisms.

4.2. Construction of the final instrument

In consequence of the dry run the description of the influences was a little changed (5). As to the description of the constraints it was changed to a great extent because the teachers had difficulties with them (7). In consequence of a series of remarks an important change was made in the 1-6 scale. Before the dry run 1 was described as "very little influence" and "very little constraint" but a great number of respondents observed that in this way they couldn't mention that they were <u>not at all</u> influenced by certain persons, institutions etc... That's why in the final questionnaire 1 was described as "this does not influence my decisions" and "this does not constrain my decisions". Finally, in consequence of other remarks, the formulation of some influences and constraints was changed (cf. Denoo, 1976, p. 25-28). The final instrument comprises 31 influences and 45 constraints.

5. <u>Sampling and course of the investigation</u>

On the basis of the files of the "Dienst voor Statistiek en Planning van het Nationaal Secretariaat van het Katholiek Onderwijs" (Service for Statistics and Planning of the National Office of Catholic Education) we could compose a list of addresses of teachers working in the catholic schools of the Dutch-speaking provinces of Belgium. The head teachers-without-class and the special teachers (e.g. teachers of physical training) were not questioned. The sample comprised 1.100

teachers out of a total of 16.299 (8). We got back 556 questionnaires fit for use (50.5%). This group of respondents was examined as to its representativity. We found that from the point of view of sex the group is not representative : there is a preponderance of male teachers. But from the point of view of age it is representative (9).

6. Examination of the influences

6.1. Strength of the influences

For each influence a mean rating was calculated; in this calculation the score 0 (no answer) and the score 1 (this does not influence my decisions) were left out of account. By examing this mean rating we met with the question which criteria could be used for marking out groups of influence; to our mind a ranking is necessary to be able to interpret the results in a meaningful way. Marking out groups on basis of the mean rating itself (e.g. groups of the factors with an average value between 3 and 3,5) seemed to us rather arbitrary. That's why the factors were ranked on the basis of the number of teachers who pointed out score 5 (strongly influencing) and score 6 (very strongly influencing). It is obvious that this ranking does not deviate much from the ranking on the basis of the mean rating; but for grouping the factors this method seems to us more pregnant (10), for it is exactly the influences that are pointed out by the teachers with the score 5 and 6 that are the most important elements of the system of influences. In other words : the statement "the pedagogical revues and books are considered by the teachers as a moderate influence because the mean rating is 3,82" is less clear than the statement "only 25% of the teachers consider the pedagogical revues and books as very relevant influences for their daily practice in the class". On basis of the foregoing we distinguished the following groupes of influences :

	score 5 and 6 indicated by
- very relevant influence	> 40%
- relevant influence	25-40 %
- moderate relevant influence	10-24 %
- little relevant influence	< 10 %

In connection with the proposed method of grouping and, as far as possible, taking into consideration the mean rating, table 1 was redacted.

Table 1 : Influences : grouping on basis of the score 5 + 6, with indication of the mean rating and of the standard deviation (SD)

Serial number	Description	Score 5+6	Mean rating	SD	Score 0	Score 1 (*)
	A. VERY RELEVANT influence >40%					
9	My pupils in the class	61.98	4.90	1.09	5	3
23	The teacher himself	51.80	4.57	0.91	48	4
4	Subjects discussed at the meetings of the staff	47.84	4.40	1.03	7	6
22	Visits of the governmental inspector	44.41	4.31	1.14	9	9
	B. RELEVANT influance	25-40%				
25	The textbooks I use	39.20	4.22	0.96	9	4
21	Conversations with the head teacher	33.45	4.10	1.13	36	12
31	All kinds of didactical material	33.09	4.08	1.04	8	4
7	Subjects discussed at pedagogical conferences	32.01	4.01	1.11	5	15
6	Conversations with the parents	31.11	3.97	1.10	3	9
17	Contacts with colleagues of my school	29.86	3.95	1.06	0	9
14	Pedagogical reviews and books	25.00	3.82	1.03	8	10
	C. MODERATE RELEVANT influence	10-24%				
5	Lessons by school-TV	19.78	3.66	1.10	32	54
12	Centers of in-service-training	20.86	3.63	1.20	44	56
30	Propositions and decisions of the commissions for curriculum development	18.34	3.60	1.06	27	16

29	Accidental contacts with colleagues of other primary schools	16.19	3.51	1.05	9	10
26	Investigations done by teacher-centers	16.91	3.46	1.13	34	53
1	Visits of the diocesan inspector	16.91	3.41	1.15	8	37
13	Conversations at school during the coffee break	14.39	3.39	1.07	9	35
15	Local authority	17.80	3.33	1.22	11	45
11	Articles about education in reviews and newspapers	13.13	3.30	1.05	6	26
24	National Office of Catholic Education	11.87	3.22	1.11	32	58
28	Training by "Hogere Pedagogische Instituten" (Classes for complementary pedagogical studies)	10.25	3.10	1.29	120	143
	D. LITTLE RELEVANT influence < 10%					
16	Courses of in-service-training on TV	8.45	3.05	1.05	28	78
8	Contacts with kindergartner	8.81	3.03	1.15	37	127
2	Contacts with pedagogue of a training college	8.27	2.99	1.12	49	123
20	Subjects treated in the Pedagogical Week	7.37	2.98	1.02	65	119
18	Circular letters of the Ministry of National Education	7.55	2.98	0.99	11	51
10	Unions for Teachers	9.17	2.94	1.10	11	94
3	Courses of Folk High Schools	3.59	2.68	1.00	97	201
19	Contacts with teachers of secundary schools	3.24	2.66	0.88	37	130
27	Educational programs of political parties	1.44	2.37	0.74	46	220

(*) Score 0 = number of teachers that gave no judgment about this factor
Score 1 = number of teachers who are of opinion that this factor does not influence them.

Examining table 1 one must take into account that the main rate was calculated on the scores 2 to 6. For information we mentioned for each factor the number of teachers who gave no judgment (score 0) and the number of teachers who were of opinion that the factor in question does not influence them (score 1); further on we shall return to these data.

In a first approach to the results included in table 1 it seems meaningful to restrict ourselves to the categories "very relevant influence" and "relevant influence". They prove that a great number of teachers are of opinion that they are influenced in a relevant way by their pupils, that they take decisions in a rather autonomous way and that discussions at the meetings of the staff are also experienced as a relevant influence; the latter can also be said of the official inspector. In the category "relevant influence" we find on the one side conversations with colleagues, the headteacher and the parents, and on the other side factors concerning the contents of learning, namely the textbooks, didactical material and the subjects discussed ad the (obligatory) pedagogical conferences and described in reviews and books. In both categories described here we find the traditional didactical triangle : pupil, teacher, contents; as to the other influences one is of opinion that only the persons who have directly to do with the own work in the class are considered as influencing (governmental inspector, headteacher, parents, colleagues of the own school). This contrasts very much with the ascertainment that contacts with the kindergartners, with the pedagogue of a training college and with teachers of the secundary school figure in the category "little relevant influence".

In consequence of the discussion of table 1 we wish to formulate some remarks concerning the score 0 and the score 1. Score 0 means here that the respondents gave <u>no</u> judgment about the statement. Such a reaction was not expected because score 1 was supplied with the mention "this does <u>not</u> influence my decisions". This proves that a series of respondents did not use the score 1 in the way that was proposed in the directives for answering the questionnaire. The Spearman-correlation between the ranking on the basis of the mean rating and the ranking on the basis of the 0-score amounts to -.48. So we can conclude that statements about persons and institutions that according

to the teachers have little importance, are left more unanswered than statements about persons and institutions that are considered as very important. That's also why we are careful with the interpretation of the data of the categories "moderate relevant" and "little relevant". Our ascertainment that the score 1 was not used in the proper way by all teachers, is illustrated on the one side by the Spearman-correlation between the classification on basis of the mean rating and the ranking on the basis of score 1 (= 0.90) and on the other side by the Spearman-correlation between the ranking on the basis of score 1 and score 2 (= .89).

6.2. Structure of the system of influences

To get some insight into the structure of the system of influences we made a factor-analysis in which independent factors were sought out (main axes solution) and the rotation took place according to the varimax-procedure. A statement was integrated into a certain factor when its loading was equal to or higher than .30. However, not all the factors we had found could be interpreted in a meaningful way.

Within the scope of this contribution all the factors cannot be described in detail. Only about factor 1 ample information will be given; as to the other factors we restrict ourselves to the description and some comment.

Table 2 : Structure of the system of influences : description of factor 1

Serial number	A priori category (*)	Description	Loading	% variance
22	2	visits of the governmental inspector	.66	
1	2	visits of the diocesan inspector	.65	
18	2	circular letters of the Ministry of National Education	.38	
24	2	National Office of Catholic Education	.36	
21	5	conversations with the head teacher	.35	
15	3	local authority	.35	
7	2	subjects discussed at pedagogical cnnferences	.31	15,5%

(*) Cf. note 2 for the meaning of the categories we distinguished a priori.

Factor 1 can be described as influences from offical authorities (this factor explains 15.5% of the variance) (11). Within this element of the system of influences we find a number of more or less top authorities which are responsable for the (prescribed) process of the educational activities and which can propose a number of innovations. It is striking that here the headteacher is perceived as a representative of such official bodies. In other words : this factor comprises the influence thas emanates from formal authorities.

Factor 2 can be described as influences from assisting institutions with a non-obligatory character (explains 13% of the variance). In this second element of the system of influences we find a number of institutions which offer professional help to the teacher; the teacher is free to take up the offer or not (classes for complementary pedagogical studies, Folk High Schools, centers of in-service-training, pedagogical week). Moreover it is important to ascertain that the non-obligatory character of these institutions goes cheek by jowl with their independence from schools and classes.

Factor 3 comprises all statements referring to contacts of a rather informal character; hence the description : influences from informal contacts (explains 16,4% of the variance) (12).

Factor 4 could be described as influences from accessible didactical material and content (explains 11.6% of the variance). From the answers of the teachers it appears that in their opinion everything that has to do with educational content (textbooks, didactical material, curricula, etc...) can be considered as an element of the system of influences.

Factor 5, finally, refers to influences via spreading pedagogical-didactical information (explains 14.2% of the variance). Ideas and suggestions that are spread via articles in newspapers or via pedagogical reviews and books, etc... constitute also an element of the system of influences.

The other ascertained factors are less important on the one hand because they explain only a small part (less than 10%) of the variance and on the other hand because their content does not lend itself to a clear interpretation.

On the basis of this explorative investigation we ascertain that the daily didactical action, at least according to the teachers

themselves, is influenced by a system in which provisionnally five elements can be distinguished. The factors 3 and 4 are situated as it were in the school itself whereas the factors 1, 2 and 5 are connected with elements from outside toward which a more or less non-engaged attitude can be adopted.

7. Discussion of the constraints

7.1. Strength of the constraints

The answers concerning the constraints were examined in the same ways as those concerning the influences (cf. 6.1.). A summary of the results is given in table 3.

Table 3 : Constraints : grouping on basis of the score 5+6, with indication of the mean rating and the standard deviation

Serial number	Description	Score 5+6	Mean rating	SD	Score 0	Score 1
	A. VERY RELEVANT constraints	>40%				
43	To be obliged to perform non-pedagogical activities	50.00	4.51	1.47	20	44
1	Too many pupils in the class	42.27	4.16	1.28	10	16
	B. RELEVANT constraints	25-40%				
32	To be charged with a new class	36.51	4.14	1.50	66	80
34	To teach in a class with two forms	30.57	4.07	1.45	85	88
15	Insufficient governmental subventions	32.73	3.92	1.37	19	32
37	Too little didactical material	30.75	3.91	1.24	22	26
8	Financial difficulties to buy new material	30.75	3.87	1.35	18	56
20	Not enough pupils to have a teacher for physical training or a remedial class	27.34	3.87	1.56	66	122

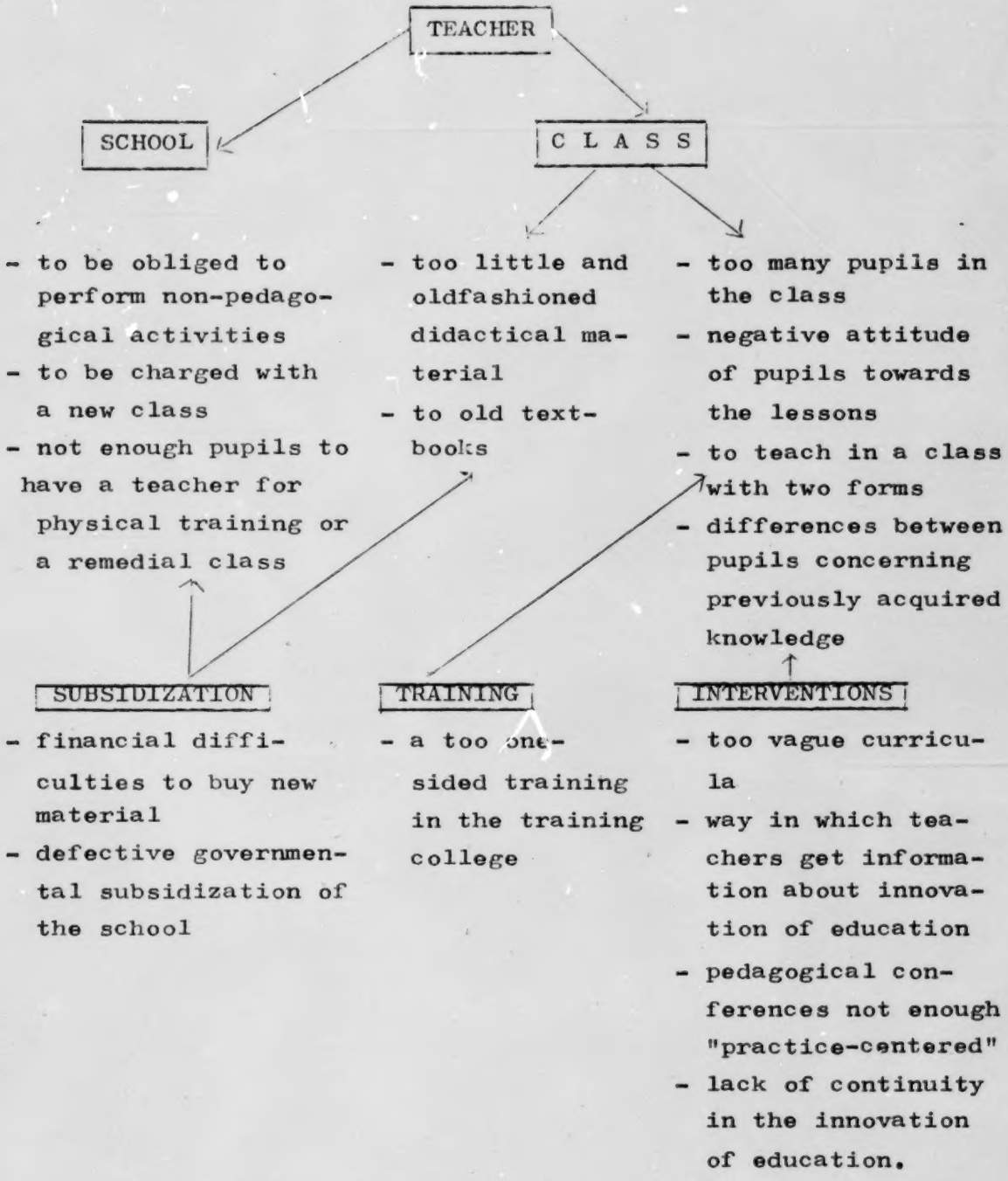
42	Old-fashioned didactical material	29.86	3.86	1.32	35	30
22	Too one-sided training in the training colleges	26.08	3.85	1.25	39	34
21	Too old textbooks	30.57	3.81	1.44	38	65
38	Too vague curricula	27.88	3.76	1.25	23	22
14	Negative attitude of pupils toward the lessons	28.44	3.76	1.34	22	35
41	Way in which teachers get information about innovation of education	26.62	3.75	1.26	28	10
28	Differences between pupils concerning previously acquired knowledge	26.26	3.70	1.24	19	22
13	Lack of continuity in the innovation of education	24.46	3.66	1.22	27	24
6	Pedagogical conferences not enough "practice-centered"	25.54	3.66	1.27	20	20
	C. MODERATE RELEVANT constraints 10-24%					
40	Pupils with not too good a social background	23.74	3.56	1.28	19	42
33	Not enough trained to collaborate with other teachers	17.80	3.51	1.19	31	30
44	Not paid for following in-service-training	23.20	3.51	1.41	24	72
17	Time-table is too rigid	22.12	3.50	1.25	11	27
24	Shortage of time to prepare lessons	18.70	3.39	1.25	25	55
5	Lack of arrangements between teachers of different years	16.55	3.38	1.19	18	41
29	Absence of collaboration between governmental, communal and catholic education	19.42	3.36	1.28	23	38

9	To be satiated with innovation proposals	17.98	3.34	1.25	24	38
27	Lack of information	16.19	3.30	1.16	31	27
30	Defective furnishing of the room	17.45	3.30	1.33	37	76
35	Teachers lacking endurance to try out innovations	13.85	3.30	1.11	43	29
39	To be sceptical of innovation	15.11	3.28	1.22	30	32
3	Class-rooms insufficiently lighted and warmed	16.73	3.26	1.35	24	101
26	To make too little distinction between good didactical acts and bad ones	12.77	3.26	1.08	29	23
45	Way in which colleagues appreciate innovation in education	15.11	3.25	1.20	20	31
10	To teach for the average pupil (graded system)	13.05	3.24	1.11	19	33
12	To be approached in a wrong way by the inspector	16.37	3.10	1.30	39	59
11	Changes in education according to political mutations	15.47	3.08	1.38	28	108
31	Too big groups for efficient pedagogical conferences	13.31	3.05	1.20	31	68
25	To be too little invited to active participation at the pedagogical conferences	10.07	2.81	1.10	19	76
	D. LITTLE RELEVANT constraints <10%					
16	Fact that the personality model, one strives after, is different from the one on which the curriculum is based or that the school intends	9.89	3.08	1.10	32	29

23	Attitude of the head-teacher toward class practice	9.35	2.93	1.21	47	83
36	Too few pedagogical conferences	4.68	2.69	0.96	26	83
4	Prospects of a flat career	5.21	2.66	1.05	37	143
2	Lack of intervention by the inspector	5.57	2.65	0.95	8	57
19	Unfavorable lie of the school	7.01	2.62	1.08	40	130
18	Non-obligatory character of the in-service-training	4.86	2.60	0.94	25	102
7	The work being hindered by the presence of several special teachers	1.26	2.41	0.77	88	175

Just like in the comment on the influences we restrict ourselves to the "very relevant" and the "relevant" constraints. A scheme of the data concerning these categories will contribute to an ordered discussion.

Scheme 3 : Representation of the main constraints that are considered by the teachers as "very relevant" or "relevant".


TEACHER
SCHOOL
C L A S S
- to be obliged to perform non-pedagogical activities
- to be charged with a new class
- not enough pupils to have a teacher for physical training or a remedial class
- too little and oldfashioned didactical material
- to old textbooks
- too many pupils in the class
- negative attitude of pupils towards the lessons
- to teach in a class with two forms
- differences between pupils concerning previously acquired knowledge
SUBSIDIZATION
- financial difficulties to buy new material
- defective governmental subsidization of the school
TRAINING
- a too one-sided training in the training college
INTERVENTIONS
- too vague curricula
- way in which teachers get information about innovation of education
- pedagogical conferences not enough "practice-centered"
- lack of continuity in the innovation of education.

The principal constraints, by which the teacher is affected comprise factors in school and class. Other factors are to be found in governmental policy, in the training of future teachers

and in the interventions. According to the teachers, the principal constraints lie on the structural level : to be obliged to perform non-pedagogical activities, to be charged with a new class (13), not enough pupils to organize a remedial class or to engage a teacher for physical training. The impossibility of organizing a remedial class concerns the individualization and, in consequence, it also belongs to the constraints on class level. A second series of constraints is clearly situated in the class (cf. scheme 3). This points to the fact that the possibility of taking certain (didactical) decisions is considered by the teachers first and foremost from their concrete daily practice in their own class. Here we get a clear insight into the way the teachers will interpret certain innovations. We can make the supposition that a proposal of innovation will be accepted and implemented insofar as it has connections with the daily problems they meet with in their own class. In other words : we find here obvious indications that explain a lot of teachers' reactions to certain innovations. It is also striking that most of the teachers allocate the origins of the principal constraints at the level of data such as subsidization policy, the training college and the practical interventions, data for which they themselves are not responsible.

In the foregoing we have tried to prove the importance of getting some insight into the way certain mechanisms work in the teacher's daily avocations. The chance of being successful in the realization of innovations increases in so far as these mechanisms are taken into account, at least in the first phase of the innovation project. That's for instance why it was not surprising that the innovation "remedial class" has spread so quickly and that in Belgium innovations are easily introduced via new textbooks and adapted didactical material.

Lastly we wish to formulate a few more remarks about the results that are brought together in table 3. Not only the mean rating ought to be taken into consideration but also the deviation (SD) of the answers. So it appears that all of the 17 constraints in the categories "very relevant" and "relevant" have a deviation that is bigger than the average one (14). This proves that the most important constraints are perceived in rather different ways. With regard to score 0 en score 1 we must observe that the considerable non-response (score 0) for three relevant constraints (namely 34, 32, 20) proves that the distinction between score 1 and the other posibilities of answering has not sufficiently been handled (15).

7.2. Structure of the system of constraints

Here too a factor analysis was made; we followed the same procedure and used the same criteria as for the influences (cf. 6.2.). Here too the ascertained factors will be described as succinctly as possible.

Table 4 : Structure of the system of constraints : description of factor 1

Serial number	A priori category (*)	Description	Loading	% variance
25	2	to be too little invited to active participation at the pedagogical conferences	.58	
36	2	too few pedagogical conferences	.57	
33	4	not enough trained to collaborate with other teachers	.53	
6	2	pedagogical conferences not enough "practice-centered"	.50	
31	2	too big groups for efficient pedagogical conferences	.48	
41	2	way in which teachers get information about innovation of education	.46	
13	2	lack of continuity in the innovation of education	.46	
18	2	non-obligatory character of the in-service-training	.45	
5	4	lack of arrangements between teachers of different years	.44	
2	2	lack of intervention by the inspector	.44	
22	2	too one-sided training in the training colleges	.42	
29	2	absence of collaboration between governmental, communal and catholic education	.42	

26	4	too make too little distinction between good didactical acts and bad ones	.41
45	4	way in which colleagues appreciate innovation in education	.35
27	3	lack of information	.34
35	4	teachers lacking endurance to try out innovations	.31
			21,9%

(*) Cat. 1 = structural constraints, inthe strict sense (directly related to the school).
Cat. 2 = structural constraints, in a wider sense (indirectly related to the school).
Cat. 3 = cultural-material constraints.
Cat. 4 = cultural-immaterial constraints.
(See also 3. Inventory of influences and constraints).

Factor 1, which we described as constraints brought about by a defective intervention and a defective presentation of innovations comprises to our way of thinking an important constituant part of the system of constraints. This factor comprises namely a number of constraints that amount to the way teachers are helped in their daily practice and the way proposals of innovation are presented. That's why we may suppose that the response to any proposed intervention-strategy will be based on the difficulties gathered together in factor 1.

Factor 2 can be described as constraints brought about by shortage of good didactical material and insufficient financial means (explains 17% of the variance). The teachers feel restrained by a shortage of didactical material and by having only old-fashioned material at their disposal. That is owing to the defective subsidization and to the financial difficulties to buy new material. In terms of our a priori scheme this seems to be a cultural-material factor (16).

To a certain extent the third factor of the system of constraints links up with the content of factor 1. We describe factor 3 namely as constraints brought about by discontinuity in the

innovation policy (explains 8.3% of the variance). The teachers declare that they feel restrained in their daily practice by too rapid a succession of innovations during the past ten years (satiated with innovation proposals), by the changes according to the mutation of political leaders, by the lack of continuity in the organization of innovations, etc... The discontinuity in the innovation policy probably brings about that one no longer grasps the meaning of all these proposals and one cannot clearly conceive the consequences for the daily practice.

Factor 4 comprises two aspects we described as follows : constraints brought about by problems with pupils and defective material circumstances (explains 8.9% of the variance). The "student material" (e.g. negative attitude of pupils toward the lessons, differences between pupils concerning acquired knowledge) and the local "material circumstances" (e.g. classrooms insufficiently lighted and warmed, defective furnishing of the room) compose together a factor of the system of constraints (17).

We described factor 5 as structural problems at microlevel (explains 8.7% of the variance). It comprises statements concerning teaching for the so-called average pupil (graded system), the rigid character of the time table, the fact that the personality model, one strives after, is different from the one on which the curriculum is based or that the school intends.

A last factor (factor 7) which, to a certain extent, can be interpreted in a meaningful way, was described as structural problems at mesolevel (explains 8.3% of the variance). In this factor we meet statements like : to teach in a class with two forms, to be charged with a new class, not to have the possibility of organizing a remedial class, to be obliged to perform non-pedagogical activities (18).

The foregoing description of the structure of the system of constraints - though it should be clearly understood that the whole of the investigation must be considered as a first exploration - leads to the ascertainment that the teachers' opinion is that certain decisions they take or wish to take are restrained to a certain extent on the one hand by the way they are helped in their daily practice and by the way the innovation policy is realized (factors 1 and 3) and on the other

hand by factors with which they themselves are daily and directly confronted in their class (the factors 2, 4, 5 and 7). In this connection we can suppose that the teachers' attitude toward certain (innovation) proposals will also be based on the ideas that are comprised in the different factors. It is striking that the factors of the system of constraints that come out most clearly are situated as it were beyond the teachers' reach. To a certain extent this interpretation is confirmed by the fact that no factor that belongs to the cultural-immaterial category has proved to be sufficiently significant. Such a fact would have had a loading on statements as : to be sceptical of innovation, teachers lacking endurance to try out innovations, to make too little distinction between good didactical acts and bad ones, etc... (19).

8. Discussion

In the literature about innovation of education we find a good many precepts concerning the realization of innovation processes but also the ascertainment that, notwithstanding a lot of good intentions and precepts, a good many proposed innovations are realized either during a short period or not at all. This has occasioned an increased attention to the so-called implementation process.

In this context one would like to know the factors that determine to a certain extent the course of this process. Sieber, for instance, points out that the present investigation "fails to penetrate the mental world of the practitioner in order to reflect definitions of need, problem-solving patterns, knowledge translation strategies, criteria for appraisal of options, perceptions of experts and other outsiders, and the like" (quot. in : Ponder & Doyle. 1977, p. 31). In other words : the efforts to get more insight into the way teachers actually direct their classes as well as into the way they constantly take decisions and by which factors these decisions are influenced, will probably lead to data with some relevance for the concrete intervention work because for the teachers the same factors that influence their daily decisions will probably also influence them when forming an opinion about a proposed innovation.

The described investigation was meant as a first exploration of the matter. In our view it has led to some findings that are relevant enough to be examined more thoroughly.

By the examination of the influencing factors it has become apparant firstly that the teacher is of opinion that he mostly takes his decisions on the basis of data existing within his class. In other words : he gives us to understand that a comparatively strong influence emanates from data he has as it were in hands (see factor 4, table 1). Secondly the teacher is of opinion that he is also influenced by certain persons (see factor 3, table 1). However it is striking that all these persons are organically related to the daily work in the class (parents, colleagues in one's own school, head teacher, governmental inspector). In short, it appears that the teacher is of opinion that the decisions he has to take are especially determined by the demands of the daily execution of his duty in his class.

This interpretation is backed up by the ascertainment that the teachers consider as "little relevant influences" the factors that implicate reflection on the present practice or that make possible a perspective both broader and at longer range (cf. table 1 : contacts with colleagues of other schools and other education levels, courses of in-service-training, etc...). Factors that are situated within the field of daily experience are considered as more important than factors that (can) determine a future development of education.

This has important consequences for the intervention-strategy concerning the practice of innovation and especially for the conception one has of the teachers who form the basis of this practice. Ponder and Doyle draw the attention to the fact that in the literature about innovation-strategy one describes three categories of teachers : the rational adopters, the stone-age obstructionists and the pragmatic skeptics (Ponder & Doyle, 1977, p. 7-10). The teacher as rational adopter could be influenced by clear informations wrapped in the requisite rhetoric. The stone-age obstructionist is the teacher who will steadily offer resistance against changes and who limits himself to a mere verbal adoption of an innovation. The origin of the reactions and the behavior of these two categories of teachers would be situated in personality characteristics that

are typical of persons who choose a career in education and for the kind and quality of training they have got. The reactions of the pragmatic skeptic, on the contrary, proceed from his personal experience and from the way he conceives the practical possibilities at short range in his own class. Ponder and Doyle situate the origin of these reactions in the so-called ecological variables that influence the way one thinks of one's own practice and the way one gives them a concrete form. "From the ecological perspective, teacher behavior, including reactions to change proposals, is seen as an outgrowth of efforts to meet environmental demands imposed by the distinctive ecology of the classroom" (Ponder & Doyle, 1977, p. 11). The figure that is outlined by our investigations corresponds obviously to the idea about the importance of the ecological variables. The foregoing also implies that, as long as we have no clear insight into the part played by these variables, we shall always be faced with surprising reactions when certain innovations in education will be proposed and we shall not be able to take justifiable decisions about the way to help teachers who are involved in an innovation project.

The results of the examination of the constraints confirm the foregoing description and interpretation. The constraints that are considered as "very relevant" and "relevant" are closely connected with the daily practice in the class (cf. the factors 2, 4, 5 and 7, table 3). The framework, within which difficulties are built up and experienced, comprises factors that are connected with the daily duties in one's own class. When on the other hand we ascertain that definite factors of the structure of constraints are connected with the way teachers are helped at present and with the way innovations are proposed (cf. factors 1 and 3, table 3) it becomes clear that the experienced way of helping and proposing makes perhaps too little allowance for the daily problems the teachers are confronted with.

Such ascertainments are not calculated to make intervention work easy. Change agents must, as it were, have insight into the system of influences and constraints existing in a given school. The idea that the perception of the influences and constraints within a school can vary from teacher to teacher makes the problem still more complicated. Indeed, it has already been proved that the perception one has of a given

innovation and the risks one is prepared to run are connected with the position one has in a school (Giacquinta, 1975 a, 1975 b) (20).

Notes

(1) We only examine these ambiguities because the investigation, we discuss here, best corresponds with the problems at the level of the "policy-interpretation linkage".

(2) Here are some examples of the five categories :
   1. professional-local : teacher-centers, teachers of secundary schools, kindergartners, ...
   2. professional-national : inspectors, unions for teachers, readings, ...
   3. non-professional-local : parents, local authority, ...
   4. non-professional-national : national association of parents, press, parliament, ...
   5. school : the teacher himself (herself), the pupils, colleagues, meeting of the staff, ...

(3) The interview was based on eight very comprehensive questions that functioned as a guide; in other words it was a non-standardized interview.

(4) In Taylor's investigation this distinction is maintained.

(5) In the questionnaire for the dry run the part concerning the influences was introduced as follows : Below is mentioned a series of persons, authorities, etc. which we suppose to influence possibly your daily actions in the class. In other words, when taking certain decisions you take these persons, authorities, etc. more or less into account. Consequently, all of them don't have the same importance. That's why we ask you to encircle the cipher that corresponds the best with the degree in which you think you are influenced.
   In the final questionnaire the words "...certain decisions.." were changed by "...didactical decisions...".

(6) For the dry run the constraints were introduced as follows: In your daily actions you are also restrained by a number of factors; in other words you feel things are not always so easy. Below we have summed up a number of factors which

we suppose restrain your daily action in the class. However the strength of all these negative influences is not the same. That's why we ask you to encircle the cipher that corresponds the best with the degree you think you are restrained.

(7) In the final questionnaire the constraints were introduced as follows : In your daily actions you are also restrained by a number of factors. The execution of certain decisions, activities and innovation proposals is difficult for you or even completely impossible. Below we have summed up a number of factors which we suppose restrain your daily action in the class. However the strength of all of these negative influences is not the same. That's why we ask you to encircle the cipher that corresponds the best with the degree you think you are restrained.

(8) For the sampling we used the method of the systematic sample. From the list of each province the name and address of every 15th teacher was taken.

(9) The representativity was verified by χ^2-calculations.

(10) The coefficient of the Spearman-correlation between the classification of the factors on basis of the mean rating and the ranking on the basis of the frequency on score 5 and 6 = .99 .

(11) To a certain extent this factor can be compared with factor 3 "Administrative or bureaucratic influence" described by Taylor (1974, p. 16).

(12) Factor 3 : some examples (between brackets the factor loading)
- contacts with the colleagues of my school (.70)
- conversations at school during the coffee break (.69)
- accidental contacts with colleagues of other primary schools (.48)
- conversations with the parents (.41)
- conversations with the headteacher (.36)
- contacts with the kindergartner (.30).

(13) To be charged with a new class is felt by many teachers as a relevant constraint. However in the interviews with the inspectors we ascertained that according to them a change of class should be considered as a positive datum. The inspectors found it necessary to break uninspired routine. This illustrates clearly that teachers don't

perceive this part of the educational reality in the same way as inspectors do.

(14) The coefficient of the Spearman-correlation between the classification on the basis of the mean rating and the marshalling on the basis of the SD is .73; between the classification on the basis of the score 5 and 6 and the marshalling on the basis of the SD the coefficient of the Spearman-correlation is . 81.

(15) Perhaps it would have been more advisable to make a distinction between "I am not cnnfronted with this factor in my school" and "this doesn't restrain me".

(16) Factor 2 : some examples (between brackets the factor loading)
- too little didactical material (.81)
- old-fashioned didactical material (.75)
- too old textbooks (.54)
- defective furnishing of the room (.45)
- financial difficulties to buy new material (.37)

This factor can be compared with the factor "Resources and services constraints" described by Taylor (1974, p. 34).

(17) As to its first aspect factor 4 corresponds with the factor "Pupil (or 'input') constraints" in Taylor's investigation (1974, p. 34).

(18) The four remaining factors, that had appeared, explained but a small part of the variance and their content couldn't be interpreted in a meaningful way.

(19) Such a factor comprised only two statements with a loading $\geq$ .30 and explained only 6.3% of the variance (cf. also factor 1).

(20) In the described investigation an analysis was made of the different ways different groups of teachers perceived the influences and the constraints. The provisional results didn't lead to meaningful interpretations.

Literature

BERMAN, P. & McLAUGHLIN, Milbrey, W., Federal programs supporting educational change. Vol IV : The findings in review. Santa Monica, Rand Corporation, 1975.

DE KEYSER, C., De opvoeding in haar verhouding tot het sociaal en economisch leven. Leuven, ACCO, 1973 (Education in its relation to social and economic life).

DENOO, H., Onderzoek naar faktoren die door leerkrachten uit het lager onderwijs remmend ervaren worden. Een exploratief onderzoek met het oog op het ontwikkelen van een begeleidingsstrategie bij vernieuwingsvoorstellen. Leuven. Fac. Psychol. & Pedag. Wetenschappen, niet gepubliceerde licentiaatsverhandeling, 1976. Leiding : Prof. R. Vandenberghe (Investigation of factors that are perceived as constraints by teachers of the primary school. An exploratory investigation for the purpose of developing an intervention strategy for change proposals. Supervision : Prof. R. Vandenberghe).

DE ROO, F., Onderzoek naar faktoren die door leerkrachten uit het lager onderwijs beïnvloedend ervaren worden. Een exploratief onderzoek met het oog op het ontwikkelen van een begeleidingsstrategie bij vernieuwingsvoorstellen. Leuven, Fac. Psychol. & Pedag. Wetenschappen, niet gepubliceerde licentiaatsverhandeling, 1973. Leiding : Prof. R. Vandenberghe. (Investigation of the factors that are conceived as influences by teachers of the primary school. An exploratory investigation for the purpose of developing an intervention strategy for change proposals. Supervision: Prof. R. Vandenberghe.)

DOYLE, W. & PONDER, G.A., The practicality ethic in teacher decision making. Interchange, 1977-1978 (8); in press.

FULLAN, M. & POMFRET, A., Research on curriculum and instruction implementation. Rev.educ.Res., 1977(47), 335-397.

GIACQUINTA, J.B., The process of organizational change in schools. Rev. Res. Educ., 1973 (1), 178-208.

GIACQUINTA, J.B., Status risk-taking : a central issue in the initiation and implementation of public school innovations. J. Res. & Developm. Educ., 1975 (9), nr. 1, 102-114 (a).

GIACQUINTA, J.B., Status, risk, and receptivity to innovations in complex organizations : a study of the responses of four groups of educators to the proposed introduction of sex education in elementary school. Soc. of Educ., 1975 (48), 38-50 (b).

GOODLAD, J.I. & KLEIN, M.F., Behind the classroom door. Worthington, C.A. Jones, 1970.

GROSS,N., GIACQUINTA, J.B. & BERNSTEIN, M., Implementing organizational innovations. New York, Basic Books, 1971.

HALL, G.E., WALLACE, R.C. Jr. & DOSSETT, W.F., A developmental conceptualization of the adoption process within educational institutions. Research and development center for teacher education, Univ. of Texas at Austin, 1973.

McLAUGHLIN, Milbrey, W., Implementation as mutual adaptation : change in classroom organization. Teacher Coll. Rec., 1976 (77), 339-351.

PETERSON, V.T., Policy implementation as a loosely-coupled organizational adaptation process. (Paper presented at the annual meeting of the AERA.) 1977.

PONDER, G. & DOYLE, W., Teacher practicality and curriculum change : an ecological analysis. (Paper presented at the annual meeting of the AERA.) 1977.

SARASON, G.B., The culture of school and the problem of change. Boston, Allyn and Bacon, 1971.

SIEBER, S.D., Trends in diffusion research : knowledge utilization. Viewpoints, 1974 (50), nr. 3, 61-81.

SMITH, L.M. & KEITH, P.M., Anatomy of educational innovation. New York, Wiley, 1971.

TAYLOR, P.H. (Ed.), Aims, influence and change in the primary school curriculum. (Monographs in curriculum studies, 1.) Berks, NFER Publishing Co, 1975.

TAYLOR, P.H., REID, W.A., HOLLEY, B.J. & EXON, G., Purpose, power and constraint in the primary school curriculum. (Schools Council research studies.) London, McMillan, 1974 (especially the chapters 2 and 3).

TAYLOR, P.H. & TYE, K.A. (Eds), Curriculum, school and society. An introduction to curriculum studies. Berks, NFER Publishing Co, 1975.

VANDENBERGHE, R., Enkele problemen betreffende het innovatiebeleid in het onderwijs. Ped. Tijdschr. Forum Opvoedkunde, 1976 (1), 507-526. (Some problems concerning the innovation policy in education.)